a well-defined character—the *absence of the second event*, or true diastolic contraction, which means that the diastolic collapse occurs immediately after the primary expansion (the vertical ascent of the tracing ending at once in a nearly vertical ascent), and that the contraction of the heart, however violent it may be, produces little effect in increasing the arterial tension. (Figs. 5 and 6.)]

ON THE INDICATIONS FOR MANUAL INTERFERENCE AND OTHER AGENCIES IN THE TREATMENT OF ABORTIONS, WITH CASES IN ILLUSTRATION.*

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I HAD looked forward, in the composition of this paper, to the pleasure and advantage of having our late friend, Mr. Hardey, as one of my hearers. His sound practical discrimination gave a high value to his opinion on matters with which his vast and varied experience made him familiar. But, alas! we are all deprived of the benefit of his remarks by his sudden and lamented death.

I most cordially subscribe to the views of Drs. Rigby, Denman, and Ramsbotham that, as a general rule, it is wise not to attempt the removal of the placenta by manual efforts in the abortions occurring during the first four or five months of pregnancy. I only venture to dissent from the dictum of those great authorities, when they assert that such interference is never necessary. They very properly dwell on the injurious effects from injudicious meddling, which they have witnessed. I myself once saw life seriously endangered from unauthorised efforts to remove the placenta about the fourth month of gestation. I found the patient greatly exhausted, partly from hæmorrhage and partly from the shock of the operation, which, to my perceptions, had lacerated the mouth and cervix of the delicate uterus. But, though placed in much peril for several days, she eventually recovered. La Motte also, in his 142nd Observation, furnishes another illustration of the danger of officious interference in the third or fourth month of pregnancy. Miscarriage had occurred to a young lady by her leaping from a restive horse. "They shewed me the child," says he, "which was exceedingly small, with a small end of the cord. I placed her in a convenient posture, and found the cord, which I followed to the entrance of the uterus, which was so closed, that I was hardly able to introduce my finger, by whose means I loosened the placenta from the sides; after which I made use of the cord, which was more serviceable to me than I could have expected. I helped at the same time with my finger, acting with it on all sides. At last I brought it away whole. But the lochia stopped, and a fever came on, from which she died fourteen days after the miscarriage." Now, here no excessive hæmorrhage warranted the operation, nor was time allowed for those expulsive efforts of Nature, which might have been solicited by the tampon or other expedients. With many such examples on record of rash interference, no wonder the best writers have agreed to proscribe it.

"I have seen many instances of the injurious effects of such attempts," observes Dr. Ramsbotham; and he corroborates his advice to leave the removal of the placenta to Nature, by citing a case in which a miscarriage of twins about the fifth month was not followed by the expulsion of the placenta before the lapse of three weeks, and yet he had refused to interfere. In contrast with this, he mentions the case of a very lovely woman, whose life was placed in great peril from a flooding induced by the ill-judged but ineffectual efforts of an ill-instructed accoucheur to remove the placenta between the fourth and fifth months. He remarks also, that he has known cases terminate favourably, in which considerable hæmorrhage has taken place in the interval between the expulsion of the foetus and that of the placenta; and he adds the comforting assurance, that "he has not met with one, in which similar symptoms of danger have succeeded the retention of the placenta at this period of pregnancy, as are met with under like circumstances at the full period."

It cannot be concealed, however, that Nature is not always competent to the management of these cases, when unaided; but that in rare cases death ensues from a portion of the foetus, or its involucre, remaining in the uterus. Thus, a case is related by Dr. George Pearson Dawson, of Sunderland, in his *Nosological Practice of Physic*, in which he was requested by his friend Dr. Monteath, in Ireland, to visit a woman in whom a part of the foetus, after abortion, remained unexpelled. Extrac-

tion was impossible, inasmuch as the os uteri was closed and undilatable. Neither of them could dilate the mouth of the uterus, which scarcely admitted the point of a finger. Death was the result. It does not appear, from the narrative, that either Dr. Dawson or Dr. Monteath was familiar with the virtues of ergot of rye. Notwithstanding the general truth of the impropriety of manual interference in the early months, we cannot conceal from ourselves the possible fact, that death may ensue, directly or remotely, from protracted hæmorrhage, or from the febrile irritation and disorder set up occasionally in the system by a retained placenta. That these are but exceptions to a general rule, I admit; nevertheless, as exceptions, they have a real existence, and are to be vigorously dealt with. Nor can any finer tact or judgment be displayed in the practice of our profession, than in singling out exceptions to general rules of practice, and dealing with them on peculiar principles. Nature, though often fully equal to the emergency, yet in feeble constitutions sometimes entirely fails, or only just rescues the patient's imperilled life from the destructive consequences of excessive floodings. In fact, a case occurs to my recollection, in the fourth month of pregnancy, in which the hæmorrhage was so tremendous, as both to endanger life and ultimate injury to the general health. It was a fifth miscarriage, and the woman had besides a numerous living family. I was not aware at that time of the virtues of *secale cornutum*. I scarcely ever witnessed so profuse a flooding at so comparatively early a period. On my first visit I ascertained, that the foetus had been expelled, but not the placenta. On examination *per vaginam*, I could just feel the placenta slightly protruding down the *collum uteri*, and nearly so far forward as the os tincæ. I attempted to lay hold of it with two fingers—the woman being faintish and the os uteri relaxed—but in vain. The attempt induced syncope. The hæmorrhage returned with severity on the following day, and lasted two hours. On the third day, there were slighter returns of hæmorrhage accompanied with diarrhoea. On the forenoon of the fourth day, the flooding became more profuse than ever, and was followed by severe and repeated syncope. All attempts by the hand proving abortive, I kept the tampon introduced, and adopted the usual remedies. I lived at that time at Burlington. In the evening, my late brother, who chanced to be over from Beverley, saw the patient with me, and urged the propriety of attempting to remove the placenta. Indeed, no one could doubt the imperative necessity for this practice, if it could be pursued without too much violence. We both made several attempts, as well by the fingers as by a pair of common surgical forceps, but were foiled. On the following morning, the alarm of the patient's friends was so great, that another experienced accoucheur (Mr. Dawson) was called in. He too attempted in vain to remove the placenta by his fingers; but urged a repetition of the attempt by the forceps at our next visit. On that occasion, I first essayed the operation by the oesophagus forceps, but failed. Mr. Dawson made a similar attempt by the common surgical dressing-forceps, but was foiled. My brother, whose surgical fingers possessed immense command in an operation of this kind, from their prodigious length, came next, and, by means of the shank of a table-spoon carried into the uterus so as to make with his finger a pair of forceps, he broke down a fragment of the placenta and brought it away. He had also probably caused the remainder to descend somewhat; so that, following up the advantage thus gained by his forceps-like fingers, he at length succeeded, by cautious but resolute and persevering efforts, in bringing the entire remaining portion away. The system was so prostrate, that little fear of inflammation was felt on account of these strenuous efforts to remove the placenta. Indeed, the hæmorrhage was so frightful, and life itself was in such peril, that we were all strongly impressed with the soundness of the principles and practice inculcated in these cases by Burns. Here, too, the placenta was forced down into the *collum uteri*, and seemed disposed to remain there, notwithstanding occasional paroxysms of after-pain kept up by a dilated state of the os uteri, and despite the influence of the tampon. No hæmorrhage followed the last successful operation, and the patient eventually recovered. The ergot of rye was not tried in this case; and conjecture as to its possible influence cannot neutralise the conclusion that, in such hæmorrhagic cases as this, manual interference is necessary. While with Dr. Ramsbotham I too would cherish "a perfect horror of all violent attempts at interference," I yet can see no valid objection to firm but cautious mechanical efforts to remove the placenta, when its removal is impossible by all other means, and when its presence is sapping the foundation of life, either by continued hæmorrhage or by poisoning the blood by its putrescent qualities. The danger of such mechanical efforts has, I think, been somewhat over-rated by the moderns, as will appear from a careful perusal of the older writers.

My attention was first specially drawn to this subject by a correspondence with the late celebrated Mr. Hey, of Leeds, of whom the French speak as the patriarch of modern English surgery. In my letter to him, which is dated January 3rd, 1819, on the subject of an

* Read at the general meeting of the East York and North Lincoln Branch.

interesting case of abortion, at that time pending, I remarked: "Manual assistance was attempted in this case from a perusal of some of Mauriceau's cases, and likewise of the chapter on abortions in Burns, in which that author points out the unpleasant consequences which often arise from the irritation of the putrid secundines, when detained long within the uterus. On the other hand, I have been prevented repeating such attempts partly from the want of success, and partly because both Rigby and Denman maintain the competency of nature unaided to accomplish the removal of the secundines in the early months." From Mr. Hey's reply, I quote the following instructive passage: "As no hæmorrhage attends the retention of the placenta in your patient's case, I trust the termination will be favourable. In my opinion no attempt should be made to dilate the os uteri, nor to extract the placenta even if the os uteri becomes dilated, unless the placenta be forced down into the collum uteri, and seem disposed to remain there. In that case the finger might be passed round the projecting part with advantage." He then recommended the introduction of the tampon or plug into the vagina, with a view to induce natural efforts at expulsion, and, in the event of hæmorrhage, still to retain the plug, and give infusion of roses, with free doses of laudanum. He adds: "I have known a lobule of the placenta remain a fortnight in the uterus, and then be discharged without injury." The above case occurred to a lady in a high social position, and the retention of the placenta excited great alarm. The abortion followed an attack of acute pneumonic inflammation, and occurred about the end of the third month. The fœtus remained suspended nearly three days at the mouth of the vagina, and then broke off from its moorings. The case occasioned me great anxiety, more especially because the escape of the placenta was never detected, notwithstanding the most vigilant surveillance. A few mere shreds alone were seen in the injections, which were daily employed. It must either therefore have come away in such minute particles, by dissolution, or a process of mouldering, as to have been scarcely perceptible, or part of it had formed an organic adhesion to the uterus. The latter supposition is countenanced by what occurred in this lady's subsequent confinement, which fell under my management a year or two afterwards. For she then suffered from extensive adhesion of the placenta to the uterus at the full period of gestation, accompanied with severe hæmorrhage. Its careful separation, however, by the hand *in utero* was safely accomplished. This lady, after the lapse of forty-five years, is quite well. In truth I received a letter from her only about a year ago.

My attention has been once more drawn to this subject by a recent case of abortion, occurring probably about the third month of pregnancy, and under very critical circumstances. The patient, a most delicate lady, had suffered from a miscarriage in September 1865, as also several weeks afterwards by a very considerable uterine hæmorrhage. But I did not see her on either of those occasions. Towards the end of December, she was attacked with partial paralysis, affecting the organs of speech, vision, and some of the voluntary muscles of the left side. On this occasion I was consulted; and, by careful management, she nearly surmounted the effects of this attack in little more than two months. During the month of March, she had a smart attack of fever with gastric and abdominal irritation, from which she emerged in about ten days. But her convalescence was now interrupted by a second miscarriage, which, in her prostrate condition, was a source of great anxiety and alarm. Happily, the hæmorrhage was but slight at the commencement of the process, and never returned. But the retention of the placenta for about a week was a matter of no little concern both to myself and the lady's friends. A portion of the secundines expelled from the vagina hung attached to the retained placenta, which could be felt within the os uteri. It was practicable to employ a slight extractive force by means of the expelled but still attached secundines; but as hæmorrhage to any extent would, in all probability, have proved fatal, no mechanical force of any amount was used to remove the placenta, which happily was expelled by nature's own efforts at the end of about a week. The tampon, in the shape of relays of sponges, was constantly employed, with the view of exciting uterine action; and recourse was also had to an infusion of the ergot of rye. When given by the mouth, it produced much sickness; it was, therefore, administered in lavements, as recommended by Villeneuve; but it failed to produce any sensible effect. I should here state, that very soon the expelled portion of the secundines became a putrescent mass, for which I found Condé's patent fluid (which consists of the permanganate of potash), when properly diluted, an excellent antiseptic. Moreover, I soon cut off the pendulous putrescent mass, having first insulated it by a tape ligature at the mouth of the vagina. I need not dwell on the obvious dangers of this case, occurring as it did in an originally fragile constitution, which had to sustain blow after blow, first by the abortion in September, then by the subsequent severe uterine hæmorrhage, next by the paralysis at the

close of December, then by a smart attack of fever in the first week of April, and lastly by a second miscarriage soon afterwards. In addition to these two miscarriages, she was the mother of two fine living children, though still only in her twenty-sixth year. Convalescence every now and then seemed imminent, but as often was interrupted by an irritable condition of the brain, the stomach, and the bowels, under the combined influence of which she ultimately sank exhausted.

This last case is not a little suggestive on one point. Both the tampon and the ergot of rye greatly disappointed my expectations as to any immediate effect in inducing uterine contraction. And here I may mention that, at a late period of my attendance, I met Mr. Sleight, the family surgeon and accoucheur, in consultation on the case, who told me that his late father had on one occasion employed galvanism with apparent benefit under somewhat analogous circumstances. But, in our case, nature anticipated any measure of that kind by her own conservative and expulsive efforts when least expected. To myself, however, it remains an interesting question, under what circumstances, and with what precautions, we may supplement the tampon and ergot of rye by a cautious and wisely regulated application of galvanism.

I will just add, in conclusion, that my attention has been directed to a paragraph in the number of our JOURNAL for April 1866, which is extracted from the *Buffalo Medical and Surgical Journal*, in which notice is taken of a paper on Acetate of Lead in Uterine Hæmorrhage in Heroic Doses, by Dr. C. K. Irwin. This gentleman recommends its use in doses of one, two, or three drachms, which, he states, are as free from danger as in doses of so many grains. He states that he had used this remedy in these large doses without having lost a patient from hæmorrhage of the uterus, which it arrests in an instant. He recommends its use in cases of violent hæmorrhage from polypus, hydatids, abortions, retention of placenta, or almost any case requiring prompt and heroic action for the suppression of uterine hæmorrhage, except in cases of placenta prævia. If further experience should warrant the safety of this remedy in such heroic doses, its discovery is a decided step in advance in the treatment of abortions; because, as Dr. Irwin assures us, its action is not only *powerfully astringent*, but also *causes immediate expulsion of the contents of the uterus*. Dr. Christison, in his treatise on *Poisoning*, tells us that "facts are not wanting to prove that acetate of lead in an improper dose will produce violent and immediate effects." And yet his remark is qualified by the statement that he "has often given it in divided doses to the amount of eighteen grains daily for eight or ten days, without remarking any unpleasant symptom whatever, except once or twice slight colic;" adding that "Van Swieten even mentions a case in which it was given to the amount of a drachm daily for ten days before it caused any material symptom." But, after all, I repeat, experience must set its seal on the safety of such heroic doses, as our only sufficient warrant for their administration.

P.S. By way of postscript to the above practical paper, I beg to invite attention to the "case of *post partum* hæmorrhage in which ether-spray was successfully used," as reported by Mr. Broadbent of Manchester in the JOURNAL of June 8th, 1867. Profuse hæmorrhage had followed the removal of an adherent placenta at the full period of gestation, "though the usual remedies, including ergot, cold napkins to the vulva, etc., and introduction of the hand into the uterus, were employed. But the bleeding continued; and the woman became almost pulseless, and was sinking fast." Mr. Broadbent now applied the ether-spray, using the double jet, to the hypogastric region. "Very soon the uterus began to contract, and the hæmorrhage ceased. There was no relaxation of the uterus after; and the woman ultimately made a good recovery, though very anæmic for some time after." The ether-spray, therefore, holds out the promise of great utility in hæmorrhage from abortion in the early months, by repressing hæmorrhage as the result of contraction of the womb.

CHOLERA.—The *Moniteur* publishes a communication from Jedda giving satisfactory accounts of the sanitary condition of Medina and Mecca, which ordinarily become centres of choleraic infection during the sojourn of the Mussulman pilgrims. The correspondent of the *Moniteur* expects that no case of the epidemic will be reported this year either among the pilgrims or the population of Jedda; and he attributes that result to the vigilance of the Turkish authorities, who have hastened with all their power the sailing of the vessels for the Holy City. The writer considers that, in spite of the care and foresight of the authorities, the journey by sea will always offer great dangers for the public health, on account of the agglomeration of the hadjis on board small craft in bad hygienic conditions; and he thinks that the Mussulman pilgrims would be much better advised to make the journey by land in caravans, as many have done this year. The reason he gives is that these parties, starting from points where cholera prevails, lose the epidemic influence in crossing the Desert.